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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/054,551

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Ralf Dohmen

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10/03/2005

Docket Administrator (Room 3J-219)
Lucent Technologies Inc.
101 Crawfords Corner Road
Holmdel, NJ 07733-3030

EXAMINER

WONG, LINDA

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

ck

Office Action Summary

Application No.

10/054,551

Applicant(s)

DOHMEN ET AL.

Examiner

Linda Wong

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,6 is/are rejected.
- 7) ☒ Claim(s) 3,7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1,3-4 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments, see Applicant's Arguments, filed 7/20/2005, with respect to the rejection(s) of claim(s) 5 under Wang et al have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Way et al (US Patent No.: 6583903) in view of Wedding (US Patent No.: 6295152) and further in view of Tan et al (US Patent No: 6226323).

Claim Objections

3. **Claim 6** is objected to because of the following informalities: Claim 6 recites the limitation "... means (SR) for passing the digital data stream ...". The term "(SR)" should have the long equivalent term written next to it to clarify the abbreviation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1,5,6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter

Art Unit: 2634

which applicant regards as the invention. Claims 1,5, and 6 recite components, such as “an analog filter”, etc., but the method or apparatus claimed does not clearly show how each component and method steps associate with each other. For instance, the claim does not recite how the analog filter is connected to the clock recovery unit.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1 and 4** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al (US Application No.: 2005/0008070) and “Computer Communications” IEEE Vol. 2, No. 4, August 1979 and further in view of Way et al (US Patent No.: 6583903).

a. Claim 1 is rejected as stated in the previous action. **Claim 1**, Wang et al discloses a method and apparatus for adjusting equalization parameters comprising an analog filter (page 8, paragraph [0086], label 852), a decision element comprising a clock recovery element (page 8, paragraph [0088], lines 4-7), an error correction means (page 8, paragraph [0089], label 864) and a controller (adaptation means) (page 8, paragraph [0086], label 856). Wang et al discloses a method of continuously measuring the bit error rate (error signal

outputted from the FEC decoder) from a number of correct bits, changing a predetermined parameter to lower the bit error rate until a level is reached. (Fig. 8A and page 1, paragraph [0007]) Although Wang et al does not disclose a received data stream comprised of data blocks with an information and error correction section, IEEE published an article that describes a data packet comprised of data blocks containing information and error correction. (Fig. 11) It would be obvious to one skilled in the art to use a data stream comprised of information and error correction so to detection errors within the stream more easily. Although Wang et al and IEEE published article does not disclose using the history of the occurring bits preceding the actual sampled bit to adjust the threshold in direction and amount, Way et al discloses an adjustable threshold using a "latch or register" for "hold[ing] the set of binary bits most recently sent along control linkage 1135". (Col. 14, lines 17-24) Although Way et al does not explicitly state adjusting the threshold in direction and amount, Way et al states adjusting the threshold in "proportion to the value of the set of binary bits held", which indicates that the threshold is proportioned or adjusted in direction and amount based on the preceding bits. (Col. 14, lines 17-24)

b. **Claim 4** inherits all the limitations of claim 1.

6. **Claims 5, 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Way et al (US Patent No.: 6583903) in view of Wedding (US Patent No.: 6295152) and further in view of Tan et al (US Patent No.: 6226323).

- a. **Claim 5**, Way et al discloses communication system comprising an analog data input with filter (Fig. 10, label 1046), an equalizer (Fig. 10, label 1046), a threshold decision circuit (Fig. 11, label 1110), a clock recovery circuit (Fig. 11, label 1102), an error correction means (FEC) (Fig. 10, label 1070, Fig. 11, label 1060 and Col. 10, lines 1-6), a feedback loop having a controller for updating the parameters (Fig. Fig. 11, labels 1076, 1140, 1135, 1134), wherein the error correction means includes means for forming a bit rate error (Fig. 11, labels 1060, and 1076 and Col. 10, lines 1-6). Although Way et al does not disclose a controller for adjusting the parameters of the sampling (adjusting the filter), Wedding discloses a receiver comprising an adjustable filter. (Fig. 1, labels 5, 11 and 2) The computing unit (Fig. 1, label 5) controls the coefficients of the filter (Fig. 1, label 2) based on the bit error rate (Col. 1, lines 59-61). IT would be obvious to one skilled in the art to incorporate adjusting the sampling of the received signal as disclosed by Wedding into Way et al's invention to accurately adjust and compute the filter coefficients to output less erroneous signals. Although Way et al and Wedding fail to teach a threshold acting as an analog to digital converter, and a means for passing the digital data stream through the receiver, Tan et al discloses a slicer, which can act as an analog to digital converter and a decision feedback filter comprised of shift registers or delay taps. (Fig. 14, labels 206 and 202 and Fig. 15) It would be obvious to one skilled in the art to connect that analog filter disclosed by Wang et al with an equalizer comprised of a threshold decision circuit and a means for passing digital data to provide correction to the bits found erroneous.

Art Unit: 2634

- b. **Claim 6** inherits all the limitations of claim 5, but claim 5 does not recite the limitation of a look-up table. As in rejection of claim 1, Way et al discloses proportioning an adjustable threshold based on the BER (Fig. 11, labels 1076 and 1140), wherein the BER is affected by the shifting of the clock phase. (Col. 14, lines 17-24)

Allowable Subject Matter

7. **Claims 3 and 7-8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linda Wong whose telephone number is 571-272-6044. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Linda Wong


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